

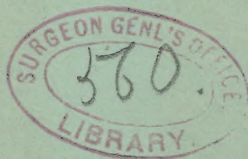
MARSH (E.J.)

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MORTALITY

FROM

SUICIDES



presented by the author —

PUBLISHED BY
THE MUTUAL LIFE INSURANCE COMPANY
OF NEW YORK

1896

WITH THE COMPLIMENTS OF
The Mutual Life Insurance Company of New York

Richard W. Stuedy

25304

President.

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The Mutual Life Insurance Company of New York.
August, 1896.

MR. RICHARD A. McCURDY,
President.

Sir:

I respectfully present for your consideration the following

REPORT ON THE MORTALITY RESULTING FROM SUICIDES.

The experience of the Company during its first thirty years, from 1844 to 1873, as already reported, showed a mortality of 5,385 deaths, sixty-two of which, or 1.1 per cent., were due to suicide. During the past ten years, 1884 to 1893, there have been 17,375 deaths, 367 of which, or 2.1 per cent., have been due to suicide.

The actual increase in the total mortality was to have been expected, and is to be explained by the large increase in the number of lives at risk, and by the increasing number of the insured who have arrived at advanced ages. The increase of the number of the risks would also account for an increase in the actual number of suicidal deaths, but would not account for the increased rate, compared with the total mortality. On the contrary, the rate should diminish in proportion as the number of deaths at advanced ages increases. This is not because suicide is more rare at advanced ages, when calculated in proportion to the numbers living at

each period of life, but because other causes of death increase rapidly with advancing years, and thus change the ratio of suicides.

In our earlier published report it was shown that neither casualties nor suicides diminish with age, when the experience is based upon the actual number of lives at each period. The variation in this ratio is shown by the following table, in which the total deaths, the casualties, and the suicides have been computed separately for the period before and after the age of fifty years:

Mortality.							1884 to 1893.
Total deaths	..	..	..	..	..	..	17,375
Casualties	..	..	..	..	..	..	759
Percentage	..	..	..	..	..	..	4.3
Suicides	..	..	..	..	..	..	367
Percentage	..	..	..	..	..	..	2.1
Deaths under 50 years of age	..	..	..	..	..	..	5,840
Casualties under 50 years of age	..	..	..	..	..	..	448
Percentage	..	..	..	..	..	..	7.7
Suicides under 50 years of age	..	..	..	..	..	..	217
Percentage	..	..	..	..	..	..	3.7
Deaths above 50 years of age	..	..	..	..	..	..	11,535
Casualties above 50 years of age	..	..	..	..	..	..	311
Percentage	..	..	..	..	..	..	2.7
Suicides above 50 years of age	..	..	..	..	..	..	152
Percentage	..	..	..	..	..	..	1.3

In order, however, to make any fair comparison between two periods, their conditions should be made similar. The most marked difference in the conditions

refers to the ages of the lives at risk. In the mortality records before 1873, not one-third of the deaths were advanced to fifty years of age, while in the last decennial period two-thirds were above fifty. In the earlier period three-fourths of the mortality had occurred in risks insured less than ten years; in the latter period, the proportion was only one-third. To equalize the conditions, the comparisons should be limited to the mortality occurring within ten years of the date of insurance. This has been done in the following table, which shows the mortality from all causes, from casualties, and from suicides in the two periods:

Mortality Under Ten Years' Duration of Insurance.	1844 to 1873.	1884 to 1893.
Deaths from all causes	4,030	6,005
Deaths from casualties	305	430
Percentage	7.5	7.1
Deaths from suicides	50	191
Percentage	1.25	3.18

In the latter period, on account of the vast increase of the business, while the total deaths have increased from 4,030 to 6,005, the casualties have increased at a proportionate ratio, and the suicides at nearly a threefold ratio. This increased ratio is enormous; for, where our former experience would have led us to expect seventy-five suicides among the six thousand deaths, the actual number has been one hundred and ninety-one. This

apparent increase in suicidal deaths requires further careful study, and will be taken up again after other circumstances of age, residence, nativity, etc.

Ages at Death.	Deaths from all Causes.	Number of Suicides.	Percentage.
20 to 29 years ..	787	31	3.93
30 to 39 " ..	2,112	76	3.59
40 to 49 " ..	2,941	109	3.67
50 to 59 " ..	4,064	106	2.6
60 to 69 " ..	4,312	38	.88
70 years and over ..	3,159	7	.22
	17,375	367	2.11

Duration of Insurance.	Deaths from all Causes.	Number of Suicides.	Percentage.
1st and 2d years ..	1,785	42	2.35
3 to 5 years ..	2,069	84	4.05
6 to 10 " ..	2,151	60	2.7
11 to 20 " ..	4,984	110	2.2
21 years and over ..	6,386	71	1.11
	17,375	367	2.11

These tables are in accordance with our former experience, and show that suicides take place at all periods of mature life. As the result of examination of numerous statistics of different nations, Morselli states that "the probability of suicide increases in direct ratio with age, at least up to the seventieth year, after which it shows sometimes irregular diminutions, sometimes sudden augmentations."

The following table shows the methods employed for self-destruction :

Ages.	Total.	Firearms.	Knife, etc.	Hanging.	Drowning.	Opium.	Other Poison.	Miscellaneous.	Unknown.
20 to 29 years ..	31	20	—	4	—	2	2	2	1
30 to 39 “ ..	76	39	4	6	2	14	8	2	1
40 to 49 “ ..	109	61	5	11	1	17	9	2	3
50 to 59 “ ..	106	66	8	4	8	12	2	2	4
60 to 69 “ ..	38	23	3	6	2	1	2	1	—
70 years and over	7	3	1	2	1	—	—	—	—
	367	212	21	33	14	46	23	9	9

The methods employed for self-destruction depend almost entirely upon convenience and opportunity, modified by national or local customs and habit of thought, and to some extent by the age and temperament of the individual.

Wounds, hanging, drowning and poisons are the usual means employed. In the United States, the pistol is the favorite method, on account of the national habit of using firearms and the facility of obtaining them. The certainty, celerity and painlessness of the result also undoubtedly influence the choice of this weapon.

The order of frequency of the methods, and the number of cases of each was:

Firearms	..	..	..	..	..	..	212 cases.
Poisons	..	..	..	..	..	..	69 cases.
Hanging	..	..	..	..	..	..	33 cases.
Knives, etc.	..	..	..	..	..	..	21 cases.
Drowning	..	..	..	..	..	..	14 cases.
Unclassified	..	..	..	..	..	..	18 cases.

Regarding the influence of the age of the individual on the selection of the weapon, it will be observed that firearms predominated at all periods of life; that drowning was very seldom resorted to by persons under fifty years of age, and that poisons were almost as seldom used by persons above that age.

Among those classed as "Miscellaneous," three jumped out of windows, four threw themselves in front of railroad trains, and two were asphyxiated by illuminating gas.

Nativity and place of residence are recognized to have some influence on the prevalence of suicide, and therefore I have prepared the following elaborate table (page 9) showing these conditions. The principal question involved is that of race or nativity, and secondarily the influence of large cities and populous States. The table is insufficient to establish any positive conclusions, but it may corroborate or modify the results of other investigations.

Statistics of European nations show that suicides prevail most among the Germans and French, moderately among the English, and least among the Italians, Irish and Spaniards. These nations have all contributed to

RESIDENCE AT DEATH.	NATIVITY.																			Total.
	United States.	Canada.	Mexico.	England.	Ireland.	Scotland.	France.	Germany.	Switzerland.	Italy.	Belgium.	Sweden and Norway.	Russia.	Poland.	Hungary.	Servia.	South America.	South Africa.	India.	
Maine .. .	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
New Hampshire .. .	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Vermont .. .	17	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
Massachusetts .. .	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Rhode Island .. .	7	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	9
Connecticut .. .	32	1	-	1	2	-	2	20	1	-	-	-	-	2	-	-	1	-	-	62
New York .. .	8	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	11
New Jersey .. .	22	-	-	-	2	1	2	6	-	1	-	-	-	-	-	-	-	-	-	34
Pennsylvania .. .	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Delaware .. .	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Maryland .. .	3	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Dist. of Columbia ..	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
Virginia .. .	3	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
South Carolina .. .	3	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Georgia .. .	3	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	4
Ohio .. .	11	1	-	2	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	18
Indiana .. .	4	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	6
Illinois .. .	14	-	-	1	1	-	-	9	-	-	-	-	-	1	-	-	-	-	-	26
Michigan .. .	5	1	-	-	-	-	-	2	-	-	-	1	-	-	-	-	-	-	-	9
Wisconsin .. .	5	-	-	-	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	9
Iowa .. .	3	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	6
Minnesota .. .	6	1	-	-	-	-	-	1	-	-	1	-	-	-	-	1	-	-	-	10
Kentucky .. .	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
Tennessee .. .	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	4
Alabama .. .	2	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	7
Mississippi .. .	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	2
Louisiana .. .	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Texas .. .	5	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	6
Arkansas .. .	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Missouri .. .	10	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	12
Kansas .. .	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Nebraska .. .	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Dakota .. .	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Colorado .. .	4	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	7
Nevada, Wyoming, Utah, Montana .. .	5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
California .. .	14	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	23
Oregon & Washington Ter.	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3
Canada .. .	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Mexico .. .	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2
England .. .	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
France .. .	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	3
Switzerland .. .	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
Germany .. .	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	7
Sweden .. .	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
South Africa .. .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Australia .. .	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Total, .. .	231	7	1	11	9	3	9	82	2	1	1	2	1	2	1	1	1	1	1	367

the population of America, and the race proclivities of each would be transmitted to their descendants. We are unable, however, to trace the stock after the first generation, as our records merely state the place of nativity of the applicant, and all born in the United States are called Americans. Yet, an ethnic influence undoubtedly exists, and may partially explain the greater or less extent of suicide in different sections of the country as these have been occupied by different nationalities.

Three hundred and forty-six suicides occurred in the United States; of these, two hundred and twenty-nine were natives of the United States, and one hundred and seventeen were foreign born; of the foreigners, seventy-three were born in Germany, eleven in England, nine in Ireland and five in France.

The Germans exceed the Irish in number of lives at risk, but this difference can scarcely reach the proportion of eight to one. In the State of New York there were sixty-two suicides, thirty of which were native born, twenty German, and ten represented seven other countries.

In reference to our European insurance, there were seven insured in Germany who died in Germany; three insured in France died in France; one insured in Norway died in Sweden.

In reference to the prevalence of suicide in different States or sections of the country, I find no marked distinction, except that which is derived from the existence

of large cities. The proportion of suicides is generally greater among the condensed population of urban centres than among the more scattered inhabitants of the country.

The investigation as to the determining motives of suicide is very unsatisfactory. The information given on the proofs of death is generally meagre, and there are serious obstacles in the way of thorough research. The sympathy of friends glosses over domestic troubles and intemperate habits, and also exaggerates any sign of mental aberration or unbalanced mind. In seventy cases the persons were said to have been insane, and in many others they were said to have been depressed, melancholic, or unhinged by anxiety and trouble. In a few cases the suicide was caused by impaired physical health or the delirium of acute fevers.

Alcoholism or intemperate habits were responsible for a considerable number of these deaths. Financial reverses and business embarrassment, causing dejection, anxiety and sleeplessness, are very frequently spoken of in the evidence before coroners' inquisitions. Two hundred and thirty-five were engaged in commerce, trade, or business of some description, and only nineteen were farmers.

Our records show no evidence of any hereditary or family tendency to suicide. In five only of these cases was there any previous record of suicide in the family histories, viz.: one father, one mother and three brothers.

Compared with the total number of deaths given in these family histories the proportion of suicide is not larger than that in the general community.

Having considered these conditions relating to suicide, the question of the recent increase in the mortality from this cause may be resumed. It has been already shown that there has been a decided increase within recent years, and that this increase appears not only in the actual number of deaths, but in the rate compared with the mortality from all causes. A further analysis is required to learn whether this increase is actual, or only apparent and due solely to the great increase in the Company's business.

There is a common impression that the mortality rate from suicides in the general population of the country has increased of late years. It is difficult to settle this question definitely, on account of the imperfection of the statistical records. Even in European countries accurate records for any long series of years are wanting, and in the United States they are still more difficult to obtain, both as to length of time and accuracy. The general tenor of the European statistics, however, leads to the conclusion that suicide has increased during the past century in varying degrees in different countries. Some of the apparent increase is probably due to the increased attention to the correctness of the records.

In the United States, the sources of information are very meagre. In some of our largest cities the mortality

records have been kept for many years with more or less accuracy, but it is within a very short time and in a very few States that they have been noted and recorded for the entire population, and in some of these the results have never been analyzed and published in a useful form. Dr. J. T. Nagle has compiled and published a table of the proportion of suicides to the population of New York City from 1804 to 1880. This yearly record shows very remarkable fluctuations from a maximum number of suicides—one suicide in every 3,017 of the population in the year 1805, to a minimum of one suicide in 23,827 population in 1864.

This table, when carried out up to 1890, seems to show a slight increase of suicides during the past ten years; but the increase is slight, and the proportion is not greater than it has been at several other periods of time. The registration reports of Massachusetts for twenty years, from 1871 to 1890, show the usual yearly fluctuation, a gradual increase of the number of suicides with the increase of the population, and in recent years a very slight increase beyond that proportion.

An examination of the suicides in Philadelphia during the ten years from 1872 to 1881, made by Dr. J. S. Lee, coroner's physician, shows no increase beyond that corresponding with the increase of the population. Likewise an examination of the statistics of Michigan, from 1874 to 1890, shows no decided evidence of any actual increase in the prevalence of suicide within that period.

Returning now to the recent experience of The Mutual Life, we find the number of suicides for each year since 1879 has been as follows:

Year.	Number of Suicides.	Year.	Number of Suicides.
1879	23	1887	27
1880	21	1888	28
1881	16	1889	39
1882	21	1890	39
1883	19	1891	44
1884	32	1892	42
1885	30	1893	62
1886	24		

During these fifteen years there has been a steady increase in the number of deaths, although with marked fluctuations in the different years. In the following table the cases are arranged for each year in accordance with the duration of insurance, and are grouped into two quinquennial periods:

Duration of Insurance.	1884.	1885.	1886.	1887.	1888.	Total for 5 years.	1889.	1890.	1891.	1892.	1893.	Total for 5 years.	Total for 10 years.
1st year ..	2	2	2	1	1	8	2	1	4	4	5	16	24
2d " ..	1	1	2	2	2	8	2	3	1	2	2	10	18
3d " ..	1	1	2	2	—	6	5	2	9	2	7	25	31
4th " ..	2	2	2	—	3	9	1	4	6	4	9	24	33
5th " ..	2	—	2	—	2	6	3	1	—	6	4	14	20
Under 5 yrs.	8	6	10	5	8	37	13	11	20	18	27	89	126
6 to 10 yrs.	6	4	2	7	2	21	6	7	4	7	15	39	60
Above 10 yrs.	18	20	12	15	18	83	20	21	20	17	20	98	181
Total ..	32	30	24	27	28	141	39	39	44	42	62	226	367

An examination of this table shows that the large increase of suicidal deaths has occurred almost entirely among the risks insured during the past six or seven years, the period in which the growth of the Company's business has been so enormous. Among the risks insured over ten years there has been very little increase of suicide. A further examination will show that this increase has been greatest during the third, fourth and fifth years of insurance. This certainly is not due to the numbers at risk, as these must be diminished with each year's succession, and it is too early for any decided deterioration in the physical condition of the insured, It would be desirable to have an exact statement of the number of lives exposed at each period of insurance, but unfortunately no such table can now be furnished. The Actuary's department has furnished me, however, with an approximate estimate of the lives at risk for the first five years of insurance, and during the second quinquennial period of the preceding table. On comparing the results of a calculation—based on this table—with the Company's early experience (thirty years), it is found that in proportion to the lives at risk the number of suicides has been less now than formerly during the first two years' exposure, but that for the third, fourth and fifth years of exposure the number has more than doubled its earlier proportion. In the absence of any apparent cause for this increase during these years, the suggestion is raised as to whether it may not have some connection with the

recent change in the form or requirements of the policy. Since 1886 the only requirement or restriction, with reference to suicide, is that the insured agrees not to die by his own act within two years. Almost immediately after this provision became effective the number of suicides, after the expiration of the second year, began to increase. It is not to be presumed or suggested that these persons had the slightest intention of committing suicide at the time that their insurance was taken, and that the deliberate intention was held for two years. Such an idea is incredible.

Suicide is the result of complex causes and the struggle of strong and conflicting emotions. The worries, anxieties, and disappointments of life sometimes lead to humiliations and extreme despondency. In this condition the mind requires every support and aid to enable it to see correctly, and there is probably no greater counteracting influence than the knowledge or belief that the comfort and happiness of a man's family are dependent upon the maintenance of his insurance.

It is possible that there are other undiscovered causes for this large number of suicides. The total number of cases is too small, and the series of years is too short, to consider the proof satisfactory, and the figures may be reversed by a longer experience.

Respectfully submitted,

ELIAS J. MARSH, M.D.,

Medical Director.

June 27, 1894

